

Cat. No. 60-2217
OWNER'S MANUAL

Please read before using this equipment.

Master Chess Computer



RadioShack®

FEATURES

Your RadioShack Master Chess Computer is one of the most versatile chess computers available. With its advanced features and chess program written by a world computer chess champion and endorsed by Gary Kasparov, the computer is ideal for everyone from the beginner or casual player to the professional and tournament-playing chess expert. You can set the computer so it plays as tamely as an absolute beginner or with the cunning of a grandmaster.

The play options let you simulate the sights, sounds, and intensity of tournament play. You can let the computer act as a referee while you play against another person, turn the computer's sound on or off, and display and hear a ticking game clock during play. The computer also displays information that can help you improve your chess skills.

The computer's many features include:

Special Sensory Playing Surface — the computer senses a move when you press a piece against a square.

Liquid Crystal Display — alternately shows current move, piece position and verification, level, position set up, search depth, principal variation, position search, rotating display, and elapsed game time information.

Rotating Display Option — lets you set the computer to display move strategy, search depth, time per move, move totals, evaluation rating, and move possibilities per second while the computer is thinking about its move.

Built-In Chess Clocks — let you set the computer to display the elapsed time since the computer or an opponent last moved, and the remaining time before the computer or an opponent must make a move. The computer can also display count-up and count-down game timers.

Rank and File Indicators — let you easily see where a piece came from and where it should go during a move.

Sixty-Four Play Levels — let you choose from 64 game types and levels of difficulty, including beginner, training, regular play, mate search, sudden death, and tournament levels.

Selectable Search Algorithms — let you set the computer to search only for a move most likely to be successful, to speed up the computer's response. Or, you can select the computer's brute force option to thoroughly search all move possibilities.

Take Back — lets you take back and replay moves, to help you improve your game.

Rule Enforcement — the computer prevents illegal moves like a game referee, to help beginners learn the rules.

Save — lets you turn off the computer without interrupting the game in progress so you can continue playing later.

Move — lets you force the computer to make a move, change sides with the computer, or learn by watching the computer play against itself.

Move Suggestion — lets you use the computer to suggest moves, to teach you the best response to an opponent's move.

Problem Set Up — lets you set up special chess problems, so you can practice solving problems published in newspapers, or chess literature or history books.

Opening Book Memory — contains most major opening strategies, so when you use the book the computer can respond more rapidly during a game's opening moves. This speeds up play and helps you play more professionally. You can set the computer to use none, some, or all of these moves during play, or select tournament opening books for the most challenging play.

Position Verification — lets you check the current position of the pieces if they are accidentally moved or misplaced.

Evaluation — shows the computer's assessment of which player has the advantage and how much of an advantage that player has.

Power Off Option — lets you save battery power by setting the computer to turn itself off if you do not press a key or board square for about 15 minutes. The computer saves the game in progress.

Two Power Options — let you power the computer from batteries (not supplied) or from AC power with an optional AC adapter.

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ABOUT THIS MANUAL

This owner's manual is divided into these major sections:

- Preparation
- Basic Chess Instructions
- Basic Operation
- Play Levels
- Advanced Functions
- Viewing Game Information
- Game Options
- Troubleshooting
- Care and Maintenance

"Preparation" on Page 8 describes the options you have to power your Master Chess Computer.

"Basic Chess Instructions" on Page 11 describes how pieces move and the rules of chess.

"Basic Operation" on Page 17 contains general instructions for using your Master Chess Computer, including how to set up and play games.

"Play Levels" on Page 26 describes your Master Chess Computer's play levels and how to set a level that is right for you.

"Advanced Functions" on Page 33 describes how to verify piece positions, take back moves, and set up and play game scenarios.

"Viewing Game Information" on Page 38 shows how to select and view strategy and evaluation information. This section also shows you how to set, view, and reset the computer's chess clocks.

"Game Options" on Page 43 explains how to customize your Master Chess Computer's play.

"Troubleshooting" on Page 51 describes steps you can take if you have a problem with your Master Chess Computer.

"Care and Maintenance" on Page 52 provides important care and maintenance instructions.

We recommend that you read these instructions thoroughly before you use your RadioShack Master Chess Computer.

PREPARATION

CONNECTING POWER

Installing Batteries

You can power your Master Chess Computer with four C batteries (not supplied). For the best performance and longest life, we recommend alkaline batteries, such as RadioShack Cat. No. 23-551. They can provide up to 150 hours of playing time.

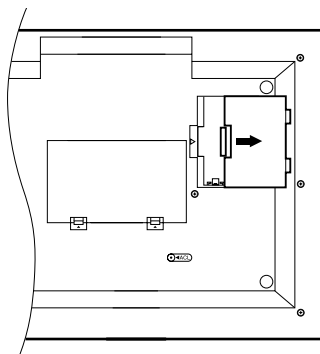
Note: To ensure you do not lose saved game information, batteries must be installed in the computer even if you are using an AC adapter.

Cautions:

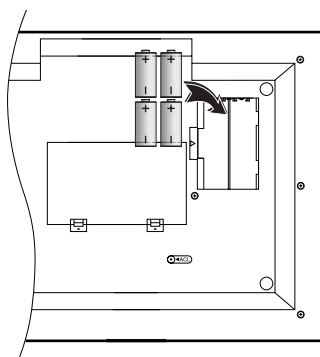
- Use only fresh batteries of the required size and recommended type.
- Do not mix old and new batteries, different types of batteries (standard, alkaline, or rechargeable), or rechargeable batteries of different capacities.

Follow these steps to install batteries.

1. Press down the tab on the battery compartment cover while lifting up the cover to remove it.



2. Place the batteries in the compartment as indicated by the polarity symbols (+ and -) marked inside.



3. Replace the cover.

When the Master Chess Computer stops operating properly, replace the batteries. If it still does not operate properly, you might need to reset the computer. See "Resetting the Master Chess Computer" on Page 10.

Cautions:

- If you do not plan to use the Master Chess Computer with batteries for a month or more, remove the batteries. Batteries can leak chemicals that can destroy electronic parts.
- Dispose of old batteries promptly and properly. Do not burn or bury them.

Note: Saved game information is lost when you remove the batteries.

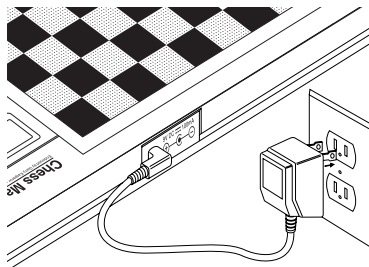
Using an AC Adapter

You can operate the computer from standard AC power with an optional AC adapter, such as Cat. No. 273-1455.

Important: To ensure that you do not lose saved game information, you must install batteries in the computer even if you are using an AC adapter.

Caution: You must use an AC adapter that supplies 9 volts and delivers at least 100 milliamps. Its center tip must be set to negative, and its plug must correctly fit the Master Chess Computer's **9V 100mA** jack. The recommended adapter meets these specifications. Using an adapter that does not meet these specifications could damage the computer or the adapter.

Follow these steps to use an AC adapter.



1. If the computer is on, press **GO/STOP** to turn it off.
2. Set the adapter's 5.5-mm outer diameter/2.1-mm inner diameter barrel plug to negative.
3. Insert the adapter's barrel plug into the computer's **9V 100mA** jack.
4. Plug the adapter into a standard AC outlet.

Cautions:

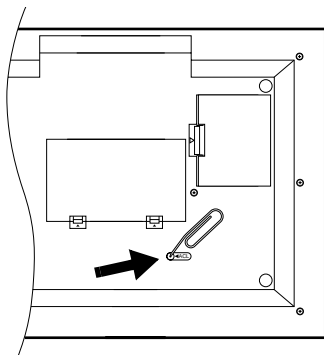
- Turn off the computer by pressing **GO/STOP** before you unplug the AC adapter or its barrel plug.
- Unplug the adapter from the AC outlet before you unplug its barrel plug from the computer.

Resetting the Master Chess Computer

If your computer does not work properly after you replace the batteries, you might need to reset it.

Note: Resetting the Master Chess Computer erases any game you stored.

To reset the computer, insert a pointed object, such as a straightened paper clip, into the **ACL** (all clear) hole on the bottom of the computer. The computer beeps and the display shows ☐ and 0:00:00.



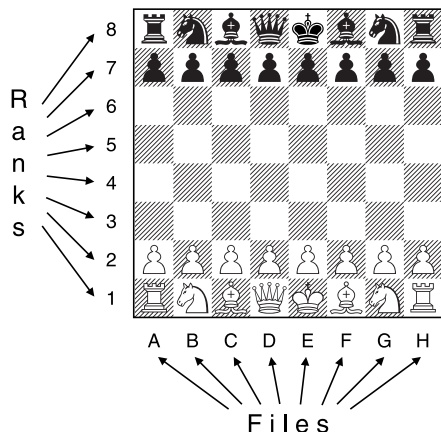
BASIC CHESS INSTRUCTIONS

THE GAME BOARD

Following international chess notation, the game board is made up of 8 vertical rows called files, and 8 horizontal rows called ranks.

Each file (left to right) is designated by a file board light and a letter of the alphabet (A through H), and consists of 8 squares alternately colored black and white.

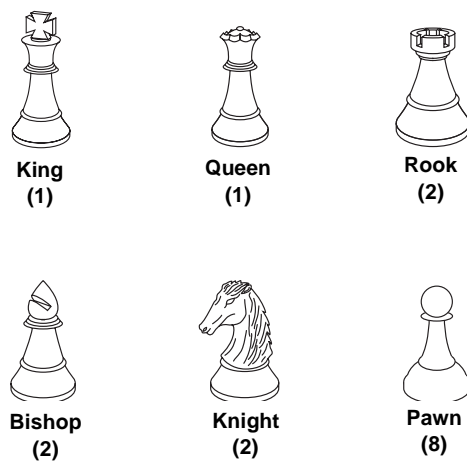
Each rank (bottom to top) is designated by a rank board light and a number (1 through 8), and also consists of 8 squares alternately colored black and white.



THE GAME PIECES

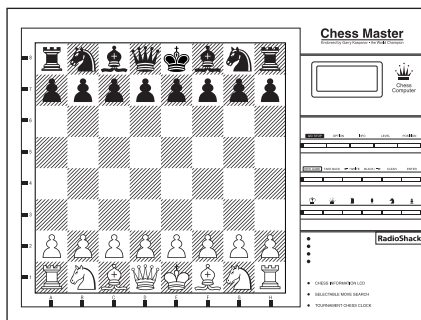
Description

There are 16 white and 16 black pieces, 32 in all. Each color has these pieces:



Setting Up

Set the board in front of you so the display and buttons are to the right. Set up the white pieces on the side of the board closest to you this way:



- Place the rooks on A1 and H1
- Place the knights on B1 and G1
- Place the bishops on C1 and F1
- Place the queen on D1
- Place the king on E1
- Place a pawn on each square A2–H2

Set up the black pieces on the opposite side of the board this way:

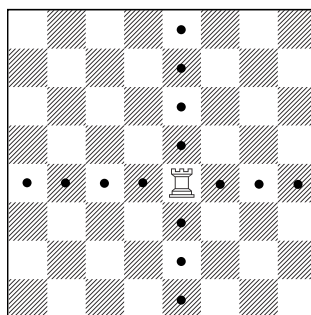
- Place the rooks on A8 and H8
- Place the knights on B8 and G8
- Place the bishops on C8 and F8
- Place the queen on D8
- Place the king on E8
- Place a pawn on each square A7–H7

Hint: The queen always begins on a square of her own color.

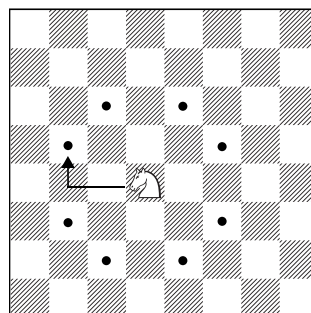
MOVEMENT

Each kind of piece moves in a different way.

The **rook** can move any number of squares vertically or horizontally, but it cannot move through a square occupied by another piece.

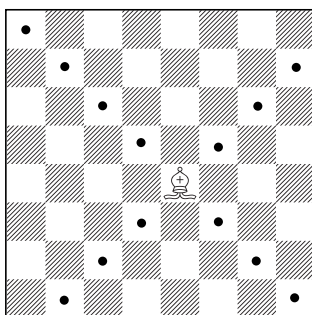


The **knight** moves in an L-shaped pattern. It moves 2 squares horizontally or vertically, then moves 1 additional square at a right angle from its first move. At the end of its move, the knight must land on a square of a different color than the one it started from.

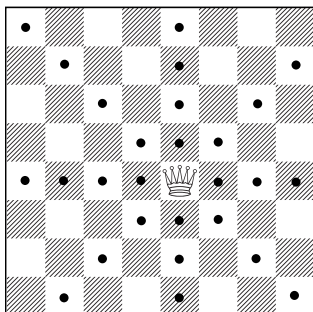


The knight can move even if the squares it moves through are occupied. (The knight is the only piece that can “jump” another piece.)

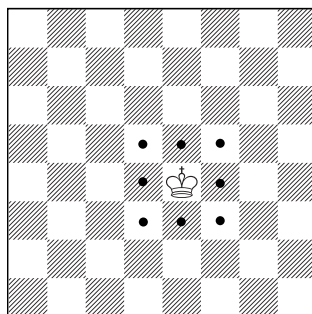
The **bishop** can move any number of squares diagonally, but it cannot move through a square occupied by another piece.



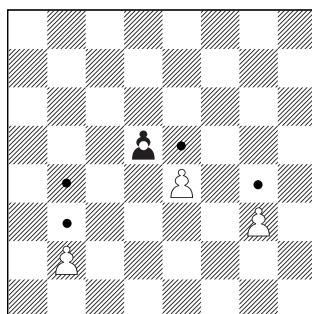
The **queen** can move any number of squares vertically, horizontally, or diagonally. (The queen's moves are a combination of the rook's and bishop's moves.) The queen cannot move through a square occupied by another piece.



The **king** can move only 1 square vertically, horizontally, or diagonally.



The **pawn** can move only 1 (or 2) squares directly forward, except when capturing another piece. It captures a piece by moving diagonally forward 1 square, except when capturing en passant. (See “Capturing En Passant” on Page 14.). When it moves from its original position, it can move 1 or 2 squares forward. On subsequent moves, it can only move 1 square.



A pawn can be promoted to a piece of higher rank. See “Promoting a Pawn” on Page 15.

GAME RULES

Checkmate — The Object of the Game

The object of the game is to position your pieces so your next move would capture the opponent's king, and your opponent cannot move, protect the king, or capture your piece. This is called checkmate.

Check

Check occurs when a player's piece directly threatens to capture the opponent's king, but the opponent can move the king, or another piece, to escape capture.

Capturing

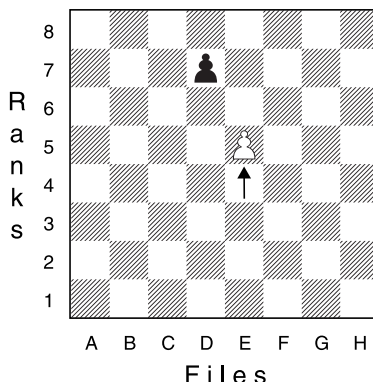
To capture a piece, you move your piece into the square occupied by the piece you are capturing, except when capturing an opponent's pawn en passant (see "Capturing En Passant"). Remove the captured piece from the board.

Capturing En Passant

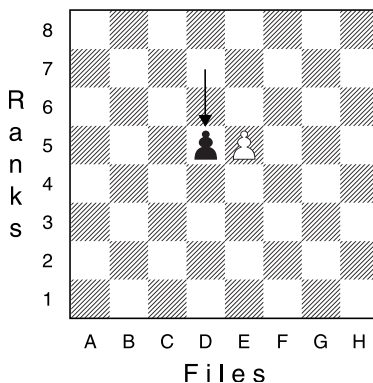
A pawn can capture an opponent's pawn that has just moved 2 squares from its original position.

Here's an example of an en passant capture.

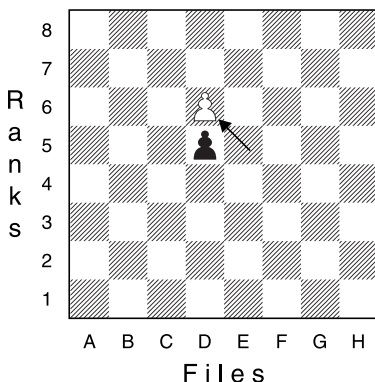
1. The white pawn advances from E4 to E5. The black pawn is still in its original position (D7).



2. The black pawn advances from D7 to D5.



3. The white pawn advances to D6 (one square behind the black pawn's position). The black pawn is captured by the white pawn, even though the exact square it is on is not occupied by the white pawn.



- The king has not moved from his original position.
- The rook that you want to move by castling has not moved from its original position.
- The king is not placed in check on its current square, the square to which it is going, or a square it passes over.
- The squares between the king and the rook are not occupied.

In castling, the king moves 2 squares in the direction of either rook. The rook that is closest to the king after the king has moved now moves to the square right next to and on the other side of the king. Castling counts as 1 move.

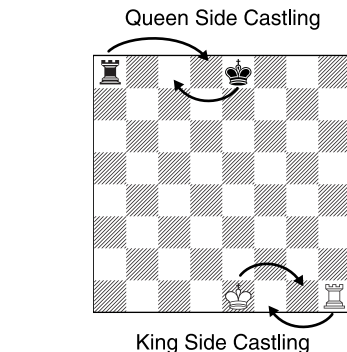
PROMOTING A PAWN

When your pawn crosses the entire board, you can promote it to a queen or another piece, even if the queen or other piece is still on the board. See “Pawn Promotion” on Page 23.

CASTLING

Castling protects the king from a potential check or checkmate situation by hiding it behind a fortified position or moving it out of immediate danger of attack.

You can castle if *all* of the following conditions exist:



Notes:

- If a rook is on the same side of the board as the king's square, this is called a *king's side* castle. If the rook is on the same side of the board as the queen's square, this is called a *queen's side* castle.
- In castling, the king always moves first, then the rook.

DRAW GAMES

In a draw, neither opponent can win or lose without making an illegal move. There are three types of draws, and your computer recognizes all three of them.

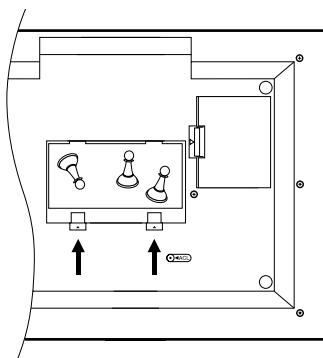
Draw by Stalemate: If the king cannot move anywhere without being placed in check (see “Illegal Moves” on Page 21), the king is not in check, and no other piece on the board can move, the computer claims a draw by stalemate.

Draw by the 50-Move Rule: If 50 consecutive moves are played in a game where neither side moves a pawn or captures a piece, the computer claims a draw by the 50-move rule.

Draw by 3-Time Repetition: If a piece returns to the same location on the board three times in a row, the computer claims a draw by 3-time repetition.

BASIC OPERATION

STORING/REMOVING THE GAME PIECES



Press both tabs on the storage compartment cover in the direction of the arrows, then lift and remove the cover.

If you just replaced the batteries or pressed **ACL** to reset the computer, it resets itself to a new game on level D1. After that, the computer remains on the last selected level. For more information, see “Play Levels” on Page 26.

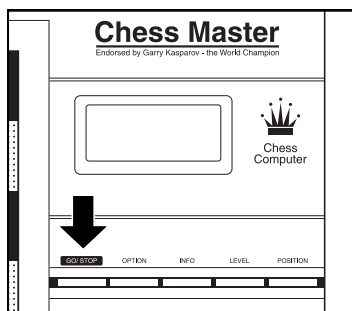
To save the current game and turn off the computer, press **GO/STOP**. The computer stores all of the game positions and any next-move calculations it has computed.

Note: To ensure you do not lose saved game information, batteries must be installed in the computer even if you are using an AC adapter.

STARTING A NEW GAME

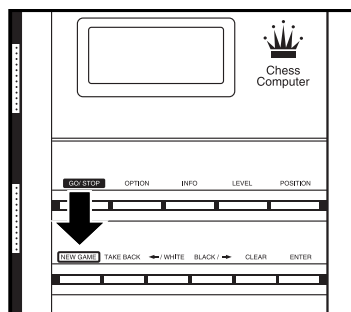
To start a new game and erase any game stored in memory, press **NEW GAME**, or press **CLEAR** and **ENTER** at the same time.

TURNING THE COMPUTER ON/OFF



Press **GO/STOP** to turn on the computer.

If you were playing a game before the computer was turned off, the computer automatically returns to the last game it was playing.



Note: The computer always starts a new game with you playing the white pieces and your opponent playing the black pieces. To change sides, see “Changing Sides With the Computer” on Page 22.



VIEWING THE GAME TIMER

The computer's game timer starts counting up from **0:00:00** when you press any key or press any board square after you press **NEW GAME**.

Notes:

- The game timer starts counting up even if the first move is an illegal move.
- The game timer continues to count up after a checkmate, draw, or stalemate until you press **NEW GAME**.
- If you are playing a tournament or sudden death game, you can set the game timer so it counts down. See "Tournament Levels (A3–H3)" on Page 30. and "Sudden Death Levels (A4–H4)" on Page 31.

Notes:

- On the display,  indicates it is white's turn to move, while  indicates it is black's turn to move.




- If you try to use any key other than **GO/STOP** or **NEW GAME** before you complete a move by pressing the TO square, the computer sounds an error beep.

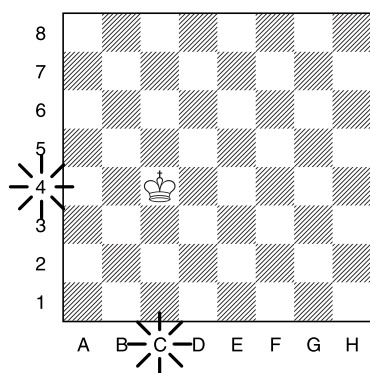
ENTERING MOVES


Playing chess against the computer is like playing with a human opponent — you make your move, and the computer responds with its move. The only difference is that you must physically move both your pieces and the computer's.

Making a move involves a FROM square and a TO square. The FROM square is the current location of the piece you plan to move; the TO square is where you are moving the piece.


Follow these steps to enter moves.




1. When it is your turn to move, press down the piece you want to move on its current (FROM) square. The display shows , the piece's symbol, and the rank and file coordinates of the current square (such as C4). The rank and file indicators on the board's edges also light to show the coordinates.





2. Move the piece and gently press it down on the TO square. The computer displays the FROM and TO coordinates. Then  flashes on the display to indicate it is your opponent's turn and the game timer counts up while the computer plans its move.

Notes:


- If your move captures an opponent's piece,  (indicating a capture) and the FROM and TO coordinates appear on the display.

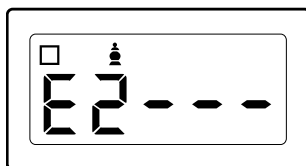
- The computer might respond instantly, so you might not see  flash and the game timer count up.
 - If you do not want to wait for the computer to calculate its move, you can press **ENTER** to force the computer to make a move. See "Forcing the Computer's Move" on Page 21.
3. Once the computer has determined its move, , the symbol for the piece the computer wants to move, and the FROM and TO coordinates appear on the display. The rank and file indicators show the FROM square.
 4. Gently press the indicated piece down on the FROM square. The rank and file indicators light to show the TO square.
 5. Move the piece and gently press it down on the TO square. The display shows  to indicate it is your turn to move, and the game timer continues to count up.


Note: If the computer's move captures one of your pieces, , the attacking piece's symbol, , and the FROM and TO coordinates appear on the display.

Now that you know the basics of entering moves, try those example moves.


Hint: For each move, remember the three basic steps: press, move, and press again.

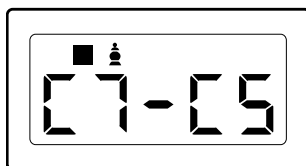
1. Press the white pawn down on square E2. The display shows , a pawn symbol, and **E2 ---**, and the E2 rank and file indicators light.



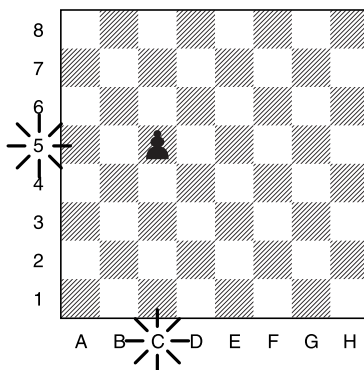
2. Move the pawn to square E4 and press it on the square.  flashes on the display and the game timer counts up while the computer calculates its move.




3. The computer might, for example, display , a pawn symbol, and **C7 - C5** to indicate that it wants to move a pawn from square C7 (the FROM square) to square C5 (the TO square). The rank and file indicators show the FROM square C7.




4. Press the black pawn on the FROM square. The rank and file indicators light to show the TO square.



5. Move and press the black pawn on the TO square. The computer displays  to indicate it is your turn to move, and the game timer continues to count up.



CORRECTING ACCIDENTAL WRONG MOVES

If you press a piece down on a FROM square, but you decide not to make that move, press the piece down on the FROM square again. The computer displays , the game timer continues to count up, and you can enter another move.

If you change your mind after completing a move (after you press the piece down on the TO square), you must wait for the computer to indicate its move, enter that move, then press **TAKE BACK** to have the computer show you how to take back its last move, then your last move. See “Taking Back Moves” on Page 33.

ILLEGAL MOVES

The computer only allows moves that comply with the rules of chess. If the computer detects an illegal move or an error, it sounds an error tone (if the sound is on) and continues to indicate the FROM square coordinates.


Here are the moves that cause the computer to indicate an illegal move:

- Pressing down a piece of the wrong color (for example, it is white's turn and you press on a black piece).

- Pressing on the wrong square when making the computer's move (for example, the rank and file indicators show square C5 and you press square B5).
- Pressing on an empty square without having first pressed down a piece that can move to that square.
- Moving a piece that puts or leaves your own king in check or checkmate.

FORCING THE COMPUTER'S MOVE

When it is the computer's turn and the game timer is counting up, you can press **ENTER** to force the computer to immediately make a move. The computer stops searching for moves and makes the best play from the moves it found up to the point where you stopped it.

Note: At the mate search levels, pressing **ENTER** does not cause the computer to make a move. Instead, the computer sounds an error beep, and the display shows  and -----, indicating that it was interrupted before it could find a checkmate. To continue the game, you must change to another level of play. See “Mate Search Levels (A6–H6)” on Page 32.

CHANGING SIDES WITH THE COMPUTER

To change sides with the computer, press **ENTER** when it is your turn to move. **□** flashes on the display while the computer takes over your pieces and makes a move. Then you can take over, and enter moves for the computer's side and continue to play the same game.

To watch the computer play against itself, simply press **ENTER** every time it is your turn to move.

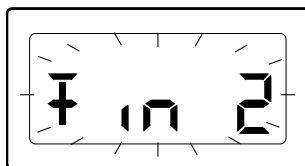
GAME INDICATORS

Checkmate

Whenever a checkmate occurs on the board, **MATE** alternates with the previous display for about 10 seconds. Press **NEW GAME** to start a new game.

When the computer discovers an opportunity to checkmate its opponent during a game, it first indicates its move as usual. When you make the move for the computer, the computer then flashes a checkmate announcement for about 10 seconds.

For example, if an opponent makes a move, then the computer finds an opportunity to checkmate the opponent in 2 moves (for each player), **7 in 2** flashes on the display.



Note: The game timer continues to count up after a checkmate until you press **NEW GAME**.

Check

Whenever a check occurs on the board, **CHECK** alternates with the previous display for about 10 seconds, indicating that a king is in check.



Draw Game

When the computer detects the conditions for a draw game, **End** flashes on the display.



If the draw game is a stalemate, the game is over and cannot be continued. If the draw game is not a stalemate, you can take back moves (see “Taking Back Moves” on Page 33) or change piece positions (see “Problem Setup” on Page 34), then continue play by making your next move or pressing **ENTER**.

Note: The game timer continues to count up after a draw game until you press **NEW GAME**.

MAKING SPECIAL MOVES

En Passant Capture

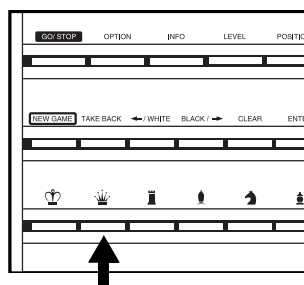
The computer recognizes when you capture a piece en passant, and it can decide to capture a piece en passant, as well.

When performing an en passant capture, the computer first indicates the move for its pawn. Then the computer displays the square of the captured pawn with ✱, and the rank and file indicators also show the location of the captured pawn. Press on the square and take away the captured pawn.

Note: For more information about capturing en passant, see “Capturing En Passant” on Page 14.

Pawn Promotion

When one of your pawns reaches the opposite side of the board, press the queen's piece key after you press the TO square to register it as a queen. If you choose to promote the pawn to a piece other than a queen, press that piece key instead.



If one of the computer's pawns reaches the opposite side of the board, the computer promotes its pawn to the piece it considers most advantageous and displays that piece's symbol.

Note: You can substitute the promoted pawn piece with the kind of piece you promoted it to, if one is available. However, you do not need to. The computer accepts the pawn as the piece it was promoted to. All you need to do is remember which pawn is your or the computer's promoted piece. (To make this easier, you can put a piece of tape on top of the promoted piece to mark it.)

Castling





The computer castles whenever it determines that such a move is desirable. The computer castles by displaying **0-0** for a king side castle, or **0-0-0** for a queen side castle. You must move the computer's king first, then its rook.

If you choose to castle, move your king first. Once you have properly moved your king two squares, the computer recognizes the move as the first part of castling. Move your rook next to complete the move.



Notes:




- Castling is a king's move. If you move your rook first, the computer accepts the rook's move as a valid move, but will not let you complete the castle by moving the king. You must take back the rook's move, then castle by moving the king first. See "Taking Back Moves" on Page 33.
- If you move your king correctly then move your rook incorrectly when castling, the display shows **Er** and the correct TO square coordinates for the rook, and the rank and file indicators also show the correct TO square. Press the rook down on the correct TO square.

For example, follow these steps to perform a white queen's side castle.

1. Press the white king down on square E1. The computer displays , and **E1 ---**, and the rank and file indicators show square E1.
2. Move the white king to square C1 and press it on the square. The computer displays , and **0-0-0**, and the rank and file indicators show square A1.
3. Press the white rook on square A1. The computer displays , and **0-0-0**, and the rank and file indicators show square D1.
4. Move the white rook to square D1 and press it on the square. The computer displays  to indicate it is black's turn to move.


If the computer castles during a game, you need to move the pieces for the computer. Here is an example of how to perform a black king's side castle for the computer.

1. The computer displays **E8** as the FROM square. Press the black king on square E8. The computer displays , and **0-0**, and the rank/file board lights show square G8.
2. Move the black king to square G8 and press it on the square. The computer displays , and **0-0**, and the rank/file board lights show square H8.

-
-
3. Press the black rook on square H8. The computer displays , , and 0-0, and the rank and file indicators show square F8.
 4. Move the black rook to square F8 and press it on the square. The computer displays  to indicate it is white's turn to move.

HAVING THE COMPUTER SUGGEST A MOVE

The computer can suggest moves for you during a game.

To view the move the computer suggests for you, press **INFO** during your turn. The computer displays ----- while it computes the move, then displays  and the FROM and TO coordinates for the suggested move.

To continue the game, simply enter your move.

Note: If you press **INFO** during the computer's turn, it displays countermove information. See "Principal Variation" on Page 38.

PLAY LEVELS

When you play against the computer, you can select a play level that matches your skill level. You can also select from many time-controlled play levels, including several that simulate tournament play. Some of the levels even let you use the computer to learn chess strategies or analyze chess problems.

The 64 different play levels (illustrated below) include:

- 16 training levels (A7 through H8)
- 8 mate search levels (A6 through H6)
- 8 beginner levels (A5 through H5)
- 8 sudden death levels (A4 through H4)
- 8 tournament levels (A3 through H3)
- 1 indefinite response time level (H2)
- 15 normal play levels (A1 through G2)

TRAINING LEVELS	8	TRAINING Search Depth 9 Ply	TRAINING Search Depth 10 Ply	TRAINING Search Depth 11 Ply	TRAINING Search Depth 12 Ply	TRAINING Search Depth 13 Ply	TRAINING Search Depth 14 Ply	TRAINING Search Depth 15 Ply	TRAINING Search Depth 16 Ply
	7	TRAINING Search Depth 1 Ply	TRAINING Search Depth 2 Ply	TRAINING Search Depth 3 Ply	TRAINING Search Depth 4 Ply	TRAINING Search Depth 5 Ply	TRAINING Search Depth 6 Ply	TRAINING Search Depth 7 Ply	TRAINING Search Depth 8 Ply
MATE SEARCH LEVELS	6	MATE SEARCH Mate in 1 move	MATE SEARCH Mate in 2 moves	MATE SEARCH Mate in 3 moves	MATE SEARCH Mate in 4 moves	MATE SEARCH Mate in 5 moves	MATE SEARCH Mate in 6 moves	MATE SEARCH Mate in 7 moves	MATE SEARCH Mate in 8 moves
BEGINNER LEVELS	5	BEGINNER 1 second per move	BEGINNER 2 seconds per move	BEGINNER 3 seconds per move	BEGINNER 4 seconds per move	BEGINNER 5 seconds per move	BEGINNER 6 seconds per move	BEGINNER 7 seconds per move	BEGINNER 8 seconds per move
SUDDEN DEATH LEVELS	4	SUDDEN DEATH 5 minutes per game	SUDDEN DEATH 10 minutes per game	SUDDEN DEATH 15 minutes per game	SUDDEN DEATH 20 minutes per game	SUDDEN DEATH 30 minutes per game	SUDDEN DEATH 45 minutes per game	SUDDEN DEATH 60 minutes per game	SUDDEN DEATH 90 minutes per game
TOURNAMENT LEVELS	3	TOURNAMENT 40 moves in 1:30	TOURNAMENT 35 moves in 1:45	TOURNAMENT 40 moves in 1:45	TOURNAMENT 35 moves in 1:30	TOURNAMENT 40 moves in 2:00	TOURNAMENT 45 moves in 2:30	TOURNAMENT 50 moves in 2:00	TOURNAMENT 40 moves in 3:00
NORMAL PLAY LEVELS	2	NORMAL PLAY 45 seconds per move	NORMAL PLAY 1 minute per move	NORMAL PLAY 1.5 minutes per move	NORMAL PLAY 2 minutes per move	NORMAL PLAY 3 minutes per move	NORMAL PLAY 5 minutes per move	NORMAL PLAY 10 minutes per move	NORMAL PLAY Indefinite Response
	1	NORMAL PLAY 1 second per move	NORMAL PLAY 2 seconds per move	NORMAL PLAY 3 seconds per move	NORMAL PLAY 5 seconds per move	NORMAL PLAY 10 seconds per move	NORMAL PLAY 15 seconds per move	NORMAL PLAY 20 seconds per move	NORMAL PLAY 30 seconds per move
		A	B	C	D	E	F	G	H

Note: For more details on various levels, see “Choosing a Level” on Page 28.

When you install batteries or press **ACL** to reset the computer, it resets itself to level D1 (a normal play level). Otherwise, the computer remains on the last selected level.

To see the current level, press **LEVEL**. The computer beeps and the display shows the code for the current level.

For example, if level B2 is selected, the display shows **L 1:00**. **L** means that the computer is set to a normal play level, and **1:00** (one minute) is the maximum amount of time the computer has to calculate each move during a game. See “Choosing a Level” on Page 28.

The following table shows the code that appears for each play level.

TRAINING LEVELS	8	PLY:9 TRAINING Search Depth 9 Ply	PLY:10 TRAINING Search Depth 10 Ply	PLY:11 TRAINING Search Depth 11 Ply	PLY:12 TRAINING Search Depth 12 Ply	PLY:13 TRAINING Search Depth 13 Ply	PLY:14 TRAINING Search Depth 14 Ply	PLY:15 TRAINING Search Depth 15 Ply	PLY:16 TRAINING Search Depth 16 Ply
		PLY:1 TRAINING Search Depth 1 Ply	PLY:2 TRAINING Search Depth 2 Ply	PLY:3 TRAINING Search Depth 3 Ply	PLY:4 TRAINING Search Depth 4 Ply	PLY:5 TRAINING Search Depth 5 Ply	PLY:6 TRAINING Search Depth 6 Ply	PLY:7 TRAINING Search Depth 7 Ply	PLY:8 TRAINING Search Depth 8 Ply
MATE SEARCH LEVELS	6	M:1 MATE SEARCH Mate in 1 moves	M:2 MATE SEARCH Mate in 2 moves	M:3 MATE SEARCH Mate in 3 moves	M:4 MATE SEARCH Mate in 4 moves	M:5 MATE SEARCH Mate in 5 moves	M:6 MATE SEARCH Mate in 6 moves	M:7 MATE SEARCH Mate in 7 moves	M:8 MATE SEARCH Mate in 8 moves
BEGINNER LEVELS	5	BEG:1 BEGINNER 1 second per move	BEG:2 BEGINNER 2 seconds per move	BEG:3 BEGINNER 3 seconds per move	BEG:4 BEGINNER 4 seconds per move	BEG:5 BEGINNER 5 seconds per move	BEG:6 BEGINNER 6 seconds per move	BEG:7 BEGINNER 7 seconds per move	BEG:8 BEGINNER 8 seconds per move
SUDDEN DEATH LEVELS	4	BL:5 SUDDEN DEATH 5 minutes per game	BL:10 SUDDEN DEATH 10 minutes per game	BL:15 SUDDEN DEATH 15 minutes per game	BL:20 SUDDEN DEATH 20 minutes per game	BL:30 SUDDEN DEATH 30 minutes per game	BL:45 SUDDEN DEATH 45 minutes per game	BL:60 SUDDEN DEATH 60 minutes per game	BL:90 SUDDEN DEATH 90 minutes per game
TOURNAMENT LEVELS	3	TR40/ 1:30:00 TOURNAMENT 40 moves in 1:30	TR35/ 1:45:00 TOURNAMENT 35 moves in 1:45	TR40/ 1:45:00 TOURNAMENT 40 moves in 1:45	TR35/ 1:30:00 TOURNAMENT 35 moves in 1:30	TR40/ 2:00:00 TOURNAMENT 40 moves in 2:00	TR45/ 2:30:00 TOURNAMENT 45 moves in 2:30	TR50/ 2:00:00 TOURNAMENT 50 moves in 2:00	TR40/ 3:00:00 TOURNAMENT 40 moves in 3:00
NORMAL PLAY LEVELS	2	L 0:45 NORMAL PLAY 45 seconds per move	L 1:00 NORMAL PLAY 1 minute per move	L 1:30 NORMAL PLAY 1.5 minutes per move	L 2:00 NORMAL PLAY 2 minutes per move	L 3:00 NORMAL PLAY 3 minutes per move	L 5:00 NORMAL PLAY 5 minutes per move	L 10:00 NORMAL PLAY 10 minutes per move	9:99:99 NORMAL PLAY Indefinite Response Time Level
	1	L 0:01 NORMAL PLAY 1 second per move	L 0:02 NORMAL PLAY 2 seconds per move	L 0:03 NORMAL PLAY 3 seconds per move	L 0:05 NORMAL PLAY 5 seconds per move	L 0:10 NORMAL PLAY 10 seconds per move	L 0:15 NORMAL PLAY 15 seconds per move	L 0:20 NORMAL PLAY 20 seconds per move	L 0:30 NORMAL PLAY 30 seconds per move
		A	B	C	D	E	F	G	H

CHANGING THE LEVEL

Follow these steps to change the current play level at any time during a game.

1. Press **LEVEL**.
2. Press the square on the game board that corresponds to the level you want. Or, repeatedly press **◄ / WHITE** or **BLACK / ►** until the display shows the level you want.

To quickly skip through eight levels at a time, press **LEVEL**.

3. When the computer displays the level you want, simply press **ENTER**, then continue the current game. Or, press **CLEAR** to remain on the last selected level.

CHOOSING A LEVEL

If you are a beginner, start out with the beginner levels (A5 through H5) or training levels (A7 through H8). The computer purposely makes mistakes on the beginner levels so you can beat the computer and learn while you play. The training levels restrict the computer's search depth, resulting in weaker play.

If you are an intermediate or advanced player, try the normal play levels (A1 through G2). These range from easy all the way up to difficult.

Hint: When you set the level, keep in mind that the more time the computer has to think about its moves, the better it plays.

Beginner Levels (A5–H5)

The eight beginner levels let beginners and average players play and win more easily than in other levels. The computer makes common mistakes such as leaving pieces unprotected, failing to capture unprotected pieces, and capturing pieces while leaving the king unprotected.

Level A5 is the easiest, and the computer's playing strength increases gradually up through level H5.

The following table shows:

- the square on the board you press to select the level
- the average amount of time the computer takes to determine its move
- what the computer displays when you select the level

Square	Time Per Move	Display
A5	1 second	bEG: 1
B5	2 seconds	bEG: 2
C5	3 seconds	bEG: 3
D5	4 seconds	bEG: 4
E5	5 seconds	bEG: 5
F5	6 seconds	bEG: 6
G5	7 seconds	bEG: 7
H5	8 seconds	bEG: 8

Note: The time-per-move figure is the *average* time the computer takes to make a move. During the opening moves of a game, the computer might move more quickly.

Training Levels (A7–H8)

The 16 training levels are designed especially for beginners. At the lower training levels, the computer moves almost instantaneously, not allowing itself to study a move in any depth.

Level A7 is the easiest, and the computer's playing strength increases gradually up through Level H8.

The following table shows:

- The square you press to select the level
- The number of ply the computer will search to find a move (a ply is one of your moves or one of the computer's moves).

Square	Display
A7	PLY: 1
B7	PLY: 2
C7	PLY: 3
D7	PLY: 4
E7	PLY: 5
F7	PLY: 6
G7	PLY: 7
H7	PLY: 8

Square	Display
A8	PLY: 9
B8	PLY: 10
C8	PLY: 11
D8	PLY: 12
E8	PLY: 13
F8	PLY: 14
G8	PLY: 15
H8	PLY: 16

Normal Play Levels (A1–G2)

The 15 normal play levels increase in difficulty from level A1 (the easiest) to level G2 (the most difficult).

The following table shows:

- the square you press to select the level
- the average amount of time the computer takes to determine its move
- what the computer displays when you select the level

Square	Time Per Move	Display
A1	1 second	L 0:01
B1	2 seconds	L 0:02
C1	3 seconds	L 0:03
D1	5 seconds	L 0:05
E1	10 seconds	L 0:10
F1	15 seconds	L 0:15
G1	20 seconds	L 0:20
H1	30 seconds	L 0:30
A2	45 seconds	L 0:45
B2	1 minute	L 1:00
C2	1 minute 30 seconds	L 1:30
D2	2 minutes	L 2:00
E2	3 minutes	L 3:00
F2	5 minutes	L 5:00
G2	10 minutes	L 10:00

Note: The time-per-move figure is the *average* time the computer takes to make each move. During the opening moves of a game, the computer might move more quickly.

Tournament Levels (A3–H3)

At these levels, you must make a specified number of moves within a given amount of time. If you exceed the allotted time before making the specified number of moves, the computer beeps, **tInE** (time) flashes on the display with the elapsed time, and the game is over.

Notes:

- When you play at a tournament level, you can set the computer's chess clock to display the count-down time instead of the elapsed time. See "Count-Down Clock (E1)" on Page 45.
- When you play at a tournament level, the computer times both itself and you. See "Remaining Time in a Sudden Death/Tournament Game" on Page 41.

The following table shows:

- the square you press to select the level
- the number of moves you must make within the allotted time
- the allotted time for the game
- what the computer displays when you select the level

Square	Moves	Time Per Game	Display (Alternating)
A3	40	1 Hour 30 Minutes	tr 40/1:30:00
B3	35	1 Hour 45 Minutes	tr 35/1:45:00
C3	40	1 Hour 45 Minutes	tr 40/1:45:00
D3	35	1 Hour 30 Minutes	tr 35/1:30:00
E3	40	2 Hours	tr 40/2:00:00
F3	45	2 Hours 30 Minutes	tr 45/2:30:00
G3	50	2 Hours	tr 50/2:00:00
H3	40	3 Hours	tr 40/3:00:00

Sudden Death Levels (A4–H4)

At these levels, you must finish the game within a given amount of time. If you exceed the allotted time, the computer beeps and **tInE** (time) flashes on the display with the elapsed time.

Notes:

- When you play at a sudden death level, you can set the computer's chess clock to display the count-down time instead of the elapsed time. See "Count-Down Clock (E1)" on Page 45.
- When you play at a sudden death level, the computer times itself and you. See "Remaining Time in a Sudden Death/Tournament Game" on Page 41.

The following table shows:

- the square you press to select the level
- the maximum amount of time allowed for the game
- what the computer displays when you select the level

Square	Time Per Game	Display
A4	5 Minutes	bL : 5
B4	10 Minutes	bL :10
C4	15 Minutes	bL :15
D4	20 Minutes	bL :20
E4	30 Minutes	bL :30
F4	45 Minutes	bL :45
G4	60 Minutes	bL :60
H4	90 Minutes	bL :90

Mate Search Levels (A6–H6)

The eight mate search levels allow you to set up a position (see “Problem Setup” on Page 34) and let the computer try to checkmate the opponent’s king within 1 to 8 moves, regardless of the opponent’s defense. The computer searches for the shortest possible solution to checkmate problems. If no checkmate is possible or the computer cannot find a checkmate, it sounds an error beep. Then you must change levels to return to normal play.

The following table shows:

- the square you press to select the level
- the mate problem the computer will try to solve
- what the computer displays when you select the level

Square	Problem	Display
A6	Mate in 1	⌚ in: 1
B6	Mate in 2	⌚ in: 2
C6	Mate in 3	⌚ in: 3
D6	Mate in 4	⌚ in: 4
E6	Mate in 5	⌚ in: 5
F6	Mate in 6	⌚ in: 6
G6	Mate in 7	⌚ in: 7
H6	Mate in 8	⌚ in: 8

Indefinite Response Time Level (H2)

At level H2, the computer searches until it finds a forced mate or you stop the search by pressing **ENTER**. Use this level to have the computer analyze complicated positions for hours or even days.

When you select this level, the computer displays **9:99:99**.

To stop the search during play at this level and force the computer to make a move, press **ENTER**.





ADVANCED FUNCTIONS

VERIFYING PIECE POSITIONS

You can verify or find the location of any and all pieces on the game board by using the piece keys any time. Each time you press a piece key, the computer displays the piece's color and location, and the rank and file indicators show the piece's location.

The piece keys help locate their corresponding piece as shown.

-  — locates   and  
-  — locates   and  
-  — locates   and  
-  — locates   and  
-  — locates   and  
-  — locates   and  

For example, if the white queen is on square D1 and you want to verify its correct location, press the queen piece key once. The computer displays   **d1**. Or, if the black queen is on square F6 and you want to verify its correct location, press the queen piece key twice. The computer displays   **F6**.

To locate all pieces of the same type, repeatedly press the piece key for the type. If there is more than one of the same color piece of that type on the board, the display and the rank and file

indicators show the location of each like piece each time you press the piece key. If you continue to press the piece key, the display and the rank and file indicators show you the location of each of the other color's pieces of the same type.

Note: If you press a piece key more times than the total number of pieces of that type on the game board, the display shows only the piece's symbol.

Press **CLEAR** to return to normal play.

TAKING BACK MOVES

The take back function lets you take back any move made by you or the computer after the move has been completed. The computer even reminds you to return a previously captured piece to the board or a castled rook to its original square.

Notes:

- If you are not sure about the position of a previously captured piece or castled rook, see "Verifying Piece Positions."
- If you change your mind about a move before pressing a piece down on its TO square, follow the steps listed in "Correcting Accidental Wrong Moves" on Page 21.

- To take back your own move, you must first let the computer make a counter-move, then take back the computer's counter-move first.

Follow these steps to take back a move.

1. Press **TAKE BACK**. The rank and file indicators show the TO square of the last move, and the display shows ■ or □, the piece's symbol, and the FROM and TO square coordinates for the last move.
2. Press the piece on the indicated TO square. The rank and file indicators change to show the FROM square of the last move.
3. Move the piece to the indicated FROM square and press it on the square.
4. Repeat Steps 1–3 to take back additional moves. You can take back up to 30 ply of moves (a ply is a combination of one of your moves and one of the computer's moves).

PROBLEM SETUP

You can use problem setup to help you learn from the computer how to work out particular game problems or puzzles outside of playing an actual game. Or you can use it to erase, re-enter, or relocate pieces any time before or during a game

Note: If you have already started a game, you must press **POSITION** during your turn to enter the setup mode. If you have not yet started a game, you can press **POSITION** any time.

Full Board Setup

In a full board problem setup, the computer records the positions you enter into memory and assumes all other pieces remain in their starting positions. You only need to go through these steps for pieces that you want to change from their starting positions.

Follow these steps to set up a game with most of the chess pieces in their starting positions.

1. Set up all of the pieces on the board.
2. Press **NEW GAME**.
3. Press **POSITION**. The computer displays **-POS-**.



4. Press the piece key for the piece you want to move or remove and ♞/♜ **WHITE** or ♟/♝ **BLACK** to change the color, if necessary. The computer displays ■ or □ and the piece for the selected piece.

5. Press the piece you want to move, or remove, down on its FROM square. The computer displays ■ or □ and the piece's symbol, -, and the square the piece is on. The rank and file indicators also show the piece's FROM square.

6. If you are moving the piece, move it to the desired square, then press it on the square. The computer displays ■ or □ and the piece's symbol, +, and the selected TO square. The rank and file indicators also show the piece's TO square.

If you are removing the piece, just remove the piece from the board. The display does not change.

7. Repeat Steps 5 and 6 for any other pieces you want to move or remove.

8. When you finish setting up the pieces, press **BLACK/➡** until the computer displays ■ or □ for the desired starting color, then press **CLEAR**. Or, simply press **CLEAR**, then choose the level you want and begin the game.

Partial Board Setup

In a partial board problem setup, the computer records only the positions you enter into memory and assumes no other pieces are on the board.

Follow these steps to clear the chessboard and set up only a few pieces.

1. Press **NEW GAME**.

2. Press **POSITION**. The computer displays **-POS-**.

3. Press **ENTER**. The computer displays [_ _ _] and clears the board positions of all pieces from its memory.

4. Press **ENTER** again. The computer displays □.

5. Press the piece key for the piece you want to add and ◀/WHITE or **BLACK/➡** to change the color, if necessary. The computer displays ■ or □ and the symbol for the selected piece.

6. Press down the piece you want to add on its TO square. The computer displays ■ or □ and the piece's symbol, +, and the square the piece is on. The rank and file indicators also show the TO square.

7. Repeat Steps 5 and 6 for any other pieces you want to add.

Note: If the computer sounds an error tone, one or more pieces were moved, removed, or entered illegally. To correct the setup, see "Correcting Illegal Setups" on Page 37.

8. When you finish setting up the pieces, press **BLACK/➡** until the computer displays the desired starting color (■ or □), then press **CLEAR**. Or, simply press **CLEAR**, then play the game.

Note: If the computer sounds an error tone, one or more pieces were added illegally. To correct the setup, see “Correcting Illegal Setups” on Page 37.

Adding Pieces During a Game

During a game you can add pieces to help with a beginner’s handicap or work different chess scenarios.

Follow these steps to add pieces during a game.

1. Press **POSITION**. The computer displays **-POS-**.
2. Press the piece key for the piece you want to add and **⬅/WHITE** or **BLACK/➡** to change the color, if necessary. The computer displays ■ or □ and the symbol for the piece you want to add.
3. Press down the new piece on the square where you want to add it. The computer displays ■ or □ and the piece’s symbol, +, and the square the piece is on. The rank and file indicators also show the square.
4. Repeat Steps 2 and 3 for any other pieces you want to add.
5. When you finish setting up the pieces, press **CLEAR**.

Note: If the computer beeps an error tone, one or more pieces were added illegally. To correct the set up, see “Correcting Illegal Setups” on Page 37.

Removing Pieces During a Game

During a game you can remove pieces to exercise an advanced player’s handicap or work different chess scenarios.

Follow these steps to remove pieces during a game.

1. Press **POSITION**. The computer displays **-POS-**.
2. Press the piece key for the piece you want to remove and **⬅/WHITE** or **BLACK/➡** to change the color, if necessary. The computer displays ■ or □ and the symbol for the selected piece.
3. Press down the piece you want to remove on its square, then remove it. The computer displays ■ or □ and the piece’s symbol, -, and the square the piece was on. The rank and file indicators also show the square.
4. Repeat Steps 2 and 3 for any other pieces you want to remove.
5. When you finish setting up the pieces, press **CLEAR**.

Note: If the computer sounds an error tone, one or more pieces were removed illegally. To correct the set up, see “Correcting Illegal Setups” on Page 37

Correcting Illegal Setups

To be legal, a setup must meet the following conditions.

- Each side has one king.
- The king for the side that will move is not in check.
- There are no pawns on the first or eighth rank.

If the computer sounds an error tone, one or more pieces are set up illegally. To correct the setup:

1. Press the piece symbol key for each piece on the board to verify piece positions. See “Verifying Piece Positions” on Page 33.
2. Set up a piece, remove the illegal piece, or replace an incorrectly placed piece with the correct piece for that square. See “Adding Pieces During a Game” or “Removing Pieces During a Game” on Page 36.
3. Press **CLEAR**.

VIEWING GAME INFORMATION

Your Master Chess Computer displays information about its calculations during play. Studying this information can help you learn more about chess.

You can view game information at any time during a game. If you view it while waiting for the computer to move, you can watch the information change as the computer considers the best response to a move you made.

Note: You can set the computer to automatically display game information as it computes its next move. See “Rotating Display Options (A3–H3)” on Page 49.

You can view the following types of game information:

- principal variation
- search information
- chess clocks
- move counter

PRINCIPAL VARIATION

The computer predicts the moves it thinks an opponent will make (up to 4 ply ahead), then computes countermoves to those moves. These countermoves are called principal variations.

To view the first principal variation, press **INFO** during the computer's turn. **■** flashes, and the display shows the FROM and TO square coordinates for the first countermove the computer is considering. Then press **◀/WHITE** or

BLACK/▶ to see additional counter-moves, if any (up to 4).

Notes:

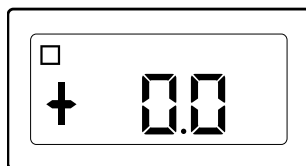
- If you press **INFO** during your turn, the computer suggests a move for you. See “Having the Computer Suggest a Move” on Page 25.
- The computer displays ----- as you press **◀/WHITE** or **BLACK/▶** if it has not yet computed a second, third, or fourth countermove.

To continue the game, simply enter the computer's move when the computer displays it.

SEARCH INFORMATION

Evaluation Rating

The computer can evaluate the current board position to determine the player with the advantage or best game. To view the computer's evaluation, press **INFO** twice. **■** flashes or **□** appears, and the display shows + or – and **n.n**.



+ or – and **n.n** (each **n** represents a digit) is an evaluation rating that indicates the computer's assessment of the current game based on these factors:

- **+** or **-** shows the player who the computer thinks has the advantage.
+ means that white has an advantage over black. - means that black has an advantage over white.
- **n.n** (9.3, for example) indicates a combination of the following values:
 - The point value of the piece the computer thinks it might win or lose. The computer assigns these point values to the pieces:
 - pawn (1 point)
 - bishop (3 points)
 - knight (3 points)
 - rook (5 points)
 - queen (9 points)
 - The computer's general assessment of the position of all pieces on the board.

Notes:

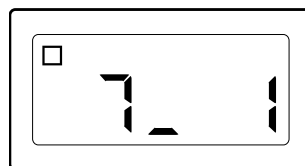
- The evaluation rating might change during the computer's move as the computer analyzes different strategies.
- The evaluation rating might be a fractional number.
- The computer will not display an evaluation rating while set to a mate search level.

To continue the game, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

Current Search Depth

The computer responds to an opponent's moves by predicting the opponent's next several moves, then countering those moves.

To view the current search depth (the number of ply of a player's moves the computer is looking ahead) and the number of possible countermove the computer is considering, press **INFO** twice, then press **BLACK/** once.



For example, if the computer is searching 7 ply of moves ahead for a player, and is considering 1 possible countermove, it displays **7_ 1**.

Notes:

- If you press **BLACK/** while the computer is still searching, it displays **-----**.
- The search depth might change during the computer's move.
- The computer will not display search depth information while set to a mate search level.

To continue the game, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

Current Countermove

To view the countermove that the computer is currently considering, press **INFO** twice, then press **BLACK/➡** twice. The display shows the FROM and TO square coordinates for the countermove.

Notes:

- The current countermove might change during the computer's move as the computer analyzes different strategies.
- The computer will not display current countermove information while set to a mate search level.

To continue the game, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

Position Total

To view the number of positions per second that the computer is checking while determining its countermove, press **INFO** twice, then press **BLACK/➡** three times. The number changes on the display.

To continue the game, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

CHESS CLOCKS

The computer's chess clocks keep track of the elapsed time and remaining time

for both sides during a game. You can view any chess clock any time during a game.

The chess clocks stop whenever you take back a move, change the playing level, select options, verify or set up a position, or press **GO/STOP** to turn off the computer. When a game is saved, the computer also saves the settings of the chess clocks in memory and resumes at those settings when play continues.

Note: The computer resets all chess clocks to **0:00:00** when you press **NEW GAME**.

To continue a game after viewing a chess clock, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

Elapsed Time Since Last Move

To view the elapsed time since either you or the computer last made a move, press **INFO** three times.



Elapsed Time Since Computer Started the Current Game

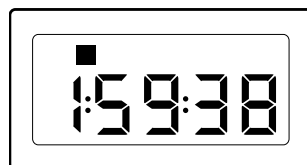
To view the elapsed time since the computer made its first move, press **INFO** three times, then press **□/➡** once.



Note: The computer resets all chess clocks to 0:00:00 when you press **NEW GAME**.

Computer's Remaining Time

To view the time the computer has remaining before sudden death or tournament time expires, press **INFO** three times then press **BLACK/➡** three times.



Elapsed Time Since You Started the Current Game

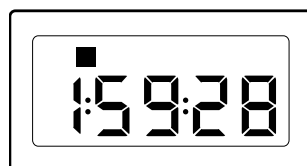
To view the elapsed time since you made your first move, press **INFO** three times, then press **BLACK/➡** twice.



Note: If you are not playing a sudden death or tournament level game, the display shows -----.

Your Remaining Time

To view the time you have remaining before sudden death or tournament time expires, press **INFO** three times and press **BLACK/➡** four times.



REMAINING TIME IN A SUDDEN DEATH/TOURNAMENT GAME

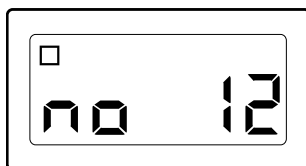
In a sudden death or tournament game, both you and your opponent have a specific amount of time to complete all moves. As you and your opponent play, you might make your moves faster or slower than the opponent. Therefore, the chess clocks keep track of your remaining time and the computer's remaining time separately.

Note: If you are not playing a sudden death or tournament level game, the display shows -----.

MOVE COUNTER

The computer counts the total number of your moves during a game. You can view the move counter any time during a game.

To view the move counter, press **INFO** four times. The computer displays **no** (number) and the number of moves you have taken.



To continue a game after viewing the move counter, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

GAME OPTIONS

The computer's game options let you select the computer's optional features any time before or during a game. These options control how the computer works, selects moves, and displays information during play.

The game options (as illustrated below) are divided into the following groups:

- operation mode
- playing mode
- rotating display

ROTATING DISPLAY OPTIONS	3	- rd:1 Main Variation 1st Move	- rd:2 Main Variation 2nd Move	- rd:3 Main Variation 3rd Move	- rd:4 Main Variation 4th Move	- rd:5 Evaluation of Position	- rd:6 Search Depth/Move Count	- rd:n Nodes per Second	- rd:t Time per Move
		+SEL Selective Search/ Brute Force	- EASY Easy Mode	- RAND Random Play	- bP:P Passive Play	- bP:A Active Book	- bP:P Complete Book	- bP:T Tournament Book	+BOOK Book On/Off
		+AUT Auto Answer	+SND Sound On/Off	- S IL Silent Mode	- t tE Tricking of Chess Clocks	- c d n Countdown Clock	- tESt Test Program	- aPd Auto Power Down	- tOP Play White from Top
		A	B	C	D	E	F	G	H

The chart shows the default setting that each option is set to when you install batteries or press **ACL** to reset the computer.

Each group of game options contains 8 different settings. The Playing Mode group includes opening book options.

Notes:

- When the computer displays an option, it also displays + or – before the option. + shows that the option is on, and – that it is off.
- The only two options that reset to the default when you start a new game are Auto Answer (A1) and Play White from the Top (H1).

SELECTING AND CHANGING OPTIONS

1. Choose the option group containing the setting you want to change by pressing **OPTION**:
 - once to select the Operation Mode group (see “Operation Mode Options (A–H1)”).
 - twice to select the Playing Mode group (see “Playing Mode Options (A2–C2)” on Page 47).
 - three times to select the Rotating Display group (see “Rotating Display Options (A3–H3)” on Page 49).

The display shows the first option in the option group you selected.

2. Repeatedly press **◀/WHITE** or **BLACK/▶** until the display shows the option you want to change. For example, if you want to change option C1 (silent mode), press **BLACK/▶** twice.

The display shows + (if the option is on) or – (if the option is off).

3. To change the option's setting, either press **ENTER** or the board square corresponding to the option.
4. Press **CLEAR** to continue a game, or repeat Steps 1–3 to select and change another option.

OPERATION MODE OPTIONS (A1–H1)

Playing Against Another Person (A1)



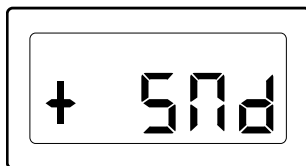
The computer is preset to display a countermove when you enter a move. However, you can set the computer so it will not answer with a countermove when you make a move by setting this option to –.

This option lets you use the computer as a referee when you play against another person, enter a series of moves, or replay a part of a game.

Notes:

- If you are playing against another person and set this option to –, either player can still have the computer suggest a move by pressing **INFO**.
- If you are playing against another person and set this option to –, either player can have the computer enter a move for them by pressing **ENTER**. The display shows the move entered by the computer.

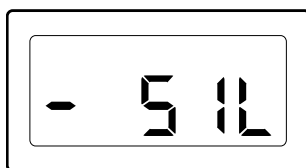
Sound (B1)



The computer is preset to beep whenever you press a key or square. However, you can set the computer so it does not beep by setting this option to –.

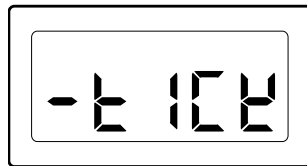
Note: Regardless of the setting, the computer beeps when it moves or when you make an illegal move or press a wrong key (unless you set silent mode to +. See “Silent Mode (C1)”).

Silent Mode (C1)



The computer is preset to beep whenever you make an illegal move or press any square or key. However, you can set the computer so it does not beep at all by setting this option to +.

Ticking Clock (D1)



The computer's clock is preset to make no sound. However, you can set the computer so the clock ticks like a real chess clock by setting this option to +.

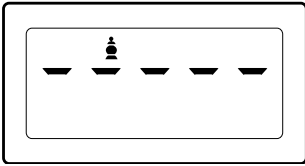
Note: The computer's clock continues to tick even if you turn on one of the rotating display options. See “Rotating Display Options (A3–H3)” on Page 49.

Count-Down Clock (E1)



The computer's clock is preset to count up the elapsed time as you play. However, if you are playing at a tournament or sudden death level (for example), you can set the clock so it counts down instead of counting up, by setting this option to +.

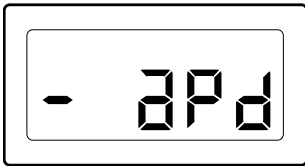
Test Program (F1)



This option is designed for use by service personnel, who use it to display troubleshooting information.

If you accidentally bring up this display, press **ENTER** and **CLEAR** at the same time to clear it.

Automatic Power-Off (G1)



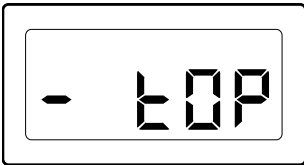
The computer is preset to stay on until you press **GO/STOP**. However, by setting this option to +, you can set the computer so it turns itself off after 15 minutes if you do not press a key or make a move.

Notes:

- The computer saves game information when it turns itself off (if batteries are installed).
- The computer will not turn itself off while it is computing a move.

After the computer turns itself off, press **GO/STOP** to turn it back on and continue playing the same game.

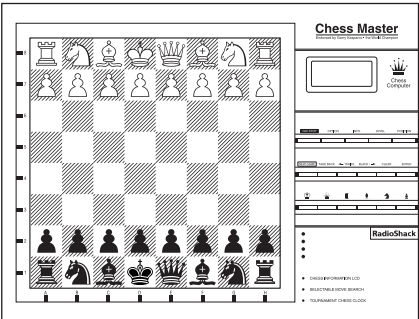
Playing White from the Top of the Game Board (H1)



The computer is preset to play the black pieces on the top of the game board and have you play the white pieces on the bottom. However, by setting this option to + you can play the white pieces from the top of the game board. After setting the option, you need to press **CLEAR** to begin a new game.

With this option set to +:

- set up the board with the black pieces closest to you (as shown here)



- the display shows the rank and file coordinates in reverse. However, the rank and file indicators along the sides of the board show the correct coordinate. For example, if the display shows a move to **E3**, the actual coordinate on the board is **D6**.

PLAYING MODE OPTIONS (A2–C2)

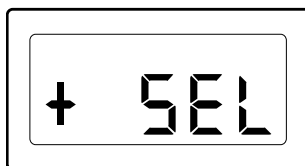
The computer's playing mode options let you control how the computer selects moves during play.

Easy Mode (B2)



The computer is preset to use the time during your move to compute its own move. However, you can set the computer so it computes only during its own turn, by setting this option to +. This makes it easier for you to beat the computer by giving it less time to search for moves.

Search Algorithms (A2)



The computer contains two types of search algorithms it can use to search for moves during play: selective search and brute force.

Random Mode (C2)



The selective search algorithm helps the computer limit its search for moves to only those most likely to be successful.

The computer is preset to select moves that are similar in type and difficulty during a game. However, you can set the computer so it chooses moves randomly during its own turn, by setting this option to +. This lets you see and react to a greater variety of moves during a game, and results in more difficult play.

The brute force algorithm allows the computer to check every move possibility during play, but results in slower play.

The computer is preset to use the selective search algorithm (except during mate search play). To set the computer so it uses the brute force algorithm to search for moves, set this option to –.

OPENING BOOKS (D2–H2)

The computer's opening book memory contains most major opening strategies so the computer can respond more rapidly during a game's opening moves.

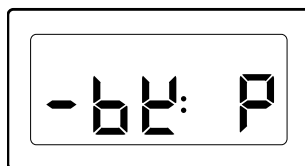
The computer has the following opening books:

- passive
- active
- normal
- abnormal

You can influence the computer's style of play by changing any of these options. When you select an option, the computer selects positions more often from that option. When you deselect an option, the computer selects fewer positions from that option.

Note: After you play through the computer's opening book, changing these options has no effect on how the computer plays. However, the computer will continue to play in response to the style of your opening moves.

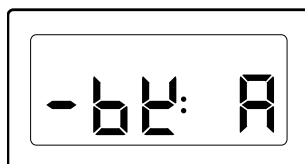
Passive Book (D2)



The computer is preset to choose opening moves that follow active openings and open positions. However, you can set the computer so it will choose moves that follow more passive and closed strategies, by setting this option to +.

Note: If you set this option to +, the computer automatically sets option E2 (Active Book) to –.

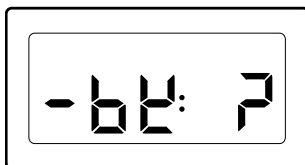
Active Book (E2)



The computer preset to choose opening moves that stress active plays and gambits. However, you can set the computer so it will choose moves that stress more passive plays and gambits by setting this option to –.

Note: If you set this option to –, the computer automatically sets option D2 (Passive Book) to +.

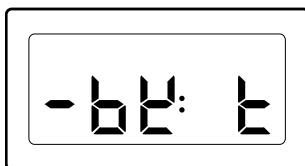
Complete Book (F2)



The computer is preset to choose only some of the moves from its opening book. However, you can set the computer so it can choose any move from its opening book by setting this option to +.

Note: If you set this option to +, the computer might make questionable or illogical moves during play. This is because its opening book contains responses to many known lines of play (even illogical ones), in case the opponent plays them.

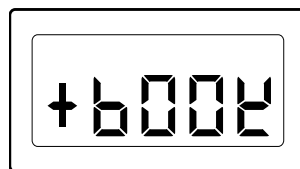
Tournament Book (G2)



The computer is preset to choose from a wide variety of moves, ranging in difficulty from easy to difficult. However, you can set the computer so it will choose only the most efficient moves, by setting this option to +.

Note: If you set this option to +, the computer plays extremely well and is almost unbeatable. However, this option also narrows the computer's choice of moves, and makes the computer's responses to moves more limited.

Book On/Off (H2)



The computer is preset to select moves from one or more opening books during the first few moves of a game. However, you can set the computer so it cannot use any of its opening books by setting this option to -.

Note: If you set this option to -, the computer must compute a response to an opponent's move "from scratch," resulting in slower play.

ROTATING DISPLAY OPTIONS (A3-H3)

The computer's rotating display option lets you continuously see the game information described in "Viewing Game Information" on Page 38 while it computes a move, without interrupting the game in progress.

Follow the steps in “Selecting and Changing Options” on Page 44 to select the statistics you want the computer to display. As it computes its move, the computer displays each statistic you select, one at a time, at 1-second intervals.

Notes:

- The computer does not display the count-up game clock while it rotates display information.
- The computer displays ----- if it has not yet computed the option.

You can select any of the following statistics for display:

- Principal Variation, First Move (A3) — the first countermove and the first ply the computer is currently considering (see “Principal Variation” on Page 38).
- Principal Variation, Second Move (B3) — the second countermove and the second ply the computer is currently considering.
- Principal Variation, Third Move (C3) — the third countermove and the third ply the computer is currently considering.
- Principal Variation, Fourth Move (D3) — the fourth countermove and the fourth ply the computer is currently considering.

- Position Evaluation (E3) — the computer’s current evaluation rating (see “Search Information” on Page 38).

Note: The computer will not display an evaluation rating while set to a mate search level.

- Current Search Depth (F3) — the computer’s current search depth.

Note: The computer will not display search depth information while set to a mate search level.

- Position Total (G3) — the current number of positions per second that the computer is checking while determining its countermove.
- Elapsed Time Per Move (H3) — the elapsed time since the last move (see “Chess Clocks” on Page 40).

If the computer displays the statistics too quickly, press **INFO** to freeze the display, then repeatedly press **◀/WHITE** or **BLACK/▶** to view each statistic. To unfreeze the display, press **OPTION**, then press **CLEAR**.

TROUBLESHOOTING

If your computer is not working as it should, follow the suggestions below to see if you can eliminate the problem. If you cannot, take the computer to your local RadioShack store for assistance.

PROBLEM	SUGGESTION
The display is dim or blank, or the computer does not work at all.	Check the batteries and AC adapter (if used).
The computer does not accept a legal move, or displays an unexpected move.	Verify the position of all pieces, black and white. See “Verifying Piece Positions” on Page 33.
The display shows all dashes.	Press ENTER and CLEAR at the same time to clear the display.
During a game, the computer does not display an evaluation rating, search depth, or any current move information.	The computer is set to a mate search level. Choose another level.
During a game, the computer does not beep when a key or square is pressed, or does not beep at all.	The computer’s sound is off, or is set to the silent mode (see “Sound (B1)” on Page 45 and “Silent Mode (C1)” on Page 45). Change the options.
The computer unexpectedly turns itself off during a game.	The computer’s automatic power-off option is on. If desired, turn this option off. See “Automatic Power-Off (G1)” on Page 46.
The computer takes a long time to respond to a move.	The computer might be set to a high play level, or the computer’s search algorithm option might be set to – SEL (brute force). Change the level or select + SEL (selective search). See “Choosing a Level” on Page 28. and “Search Algorithms (A2)” on Page 47.

CARE AND MAINTENANCE

Your RadioShack Master Chess Computer is an example of superior design and craftsmanship. The following suggestions will help you care for your computer so you can enjoy it for years.



Keep the computer dry. If it gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.



Use and store the computer only in normal temperature environments. Temperature extremes can shorten the life of electronic devices, damage batteries, and distort or melt plastic parts.



Keep the computer away from dust and dirt, which can cause premature wear of parts.



Handle the computer gently and carefully. Dropping it can damage circuit boards and cases and can cause the computer to work improperly.



Use only fresh batteries of the required size and recommended type. Batteries can leak chemicals that damage your computer's electronic parts.



Wipe the computer and chess pieces with a damp cloth occasionally to keep them looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean them.

Modifying or tampering with the computer's internal components can cause a malfunction and might invalidate its warranty. If your computer is not performing as it should, take it to your local RadioShack store for assistance.

NOTES

Limited Ninety-Day Warranty

This product is warranted by RadioShack against manufacturing defects in material and workmanship under normal use for ninety (90) days from the date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. EXCEPT AS PROVIDED HEREIN, RadioShack MAKES NO EXPRESS WARRANTIES AND ANY IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES CONTAINED HEREIN. EXCEPT AS PROVIDED HEREIN, RadioShack SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY USE OR PERFORMANCE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES RESULTING FROM INCONVENIENCE, LOSS OF TIME, DATA, PROPERTY, REVENUE, OR PROFIT OR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF RadioShack HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

In the event of a product defect during the warranty period, take the product and the RadioShack sales receipt as proof of purchase date to any RadioShack store. RadioShack will, at its option, unless otherwise provided by law: (a) correct the defect by product repair without charge for parts and labor; (b) replace the product with one of the same or similar design; or (c) refund the purchase price. All replaced parts and products, and products on which a refund is made, become the property of RadioShack. New or reconditioned parts and products may be used in the performance of warranty service. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This warranty does not cover: (a) damage or failure caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, lightning or other incidence of excess voltage or current; (b) any repairs other than those provided by a RadioShack Authorized Service Facility; (c) consumables such as fuses or batteries; (d) cosmetic damage; (e) transportation, shipping or insurance costs; or (f) costs of product removal, installation, set-up service adjustment or reinstallation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

RadioShack Customer Relations, Dept. W, 100 Throckmorton St., Suite 600, Fort Worth, TX 76102

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3/97

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